



1984-1991 BMW 3 Series Oxygen Sensor Replacement

Replace an old oxygen sensor on your E30 for better gas mileage.

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INTRODUCTION

Use this guide to install a new oxygen sensor. Oxygen sensors on this vehicle wear out about every 60,000 miles. Replacing an old sensor will help your car run better and stronger while warm and will provide better fuel economy.

The specific oxygen sensor part number varies among the 318i, 325e, 325i, and 318is models, so be sure you have the right sensor for your car before you start the job.



TOOLS:

- [Oxygen Sensor Wrench](#) (1)



PARTS:

- [Oxygen Sensor](#) (1)

Step 1 — Oxygen Sensor



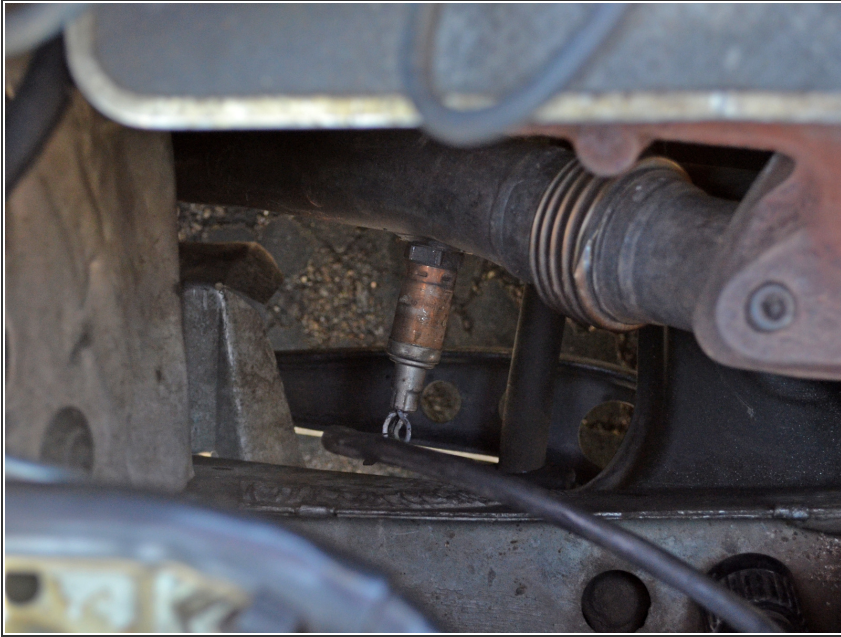
- ⚠ Before beginning, make sure the engine is cold. Like, sitting for hours cold. You'll be working directly next to/on the exhaust downpipe and may get burned if you're not careful.
- Start by locating the oxygen sensor connector. On this 325i, it is a circular connector located behind the passenger side shock tower and below the (unused) battery tray.

Step 2



- Unscrew the oxygen sensor connector (lefty, loosey) and unplug it from its socket leading to the engine harness.



Step 3



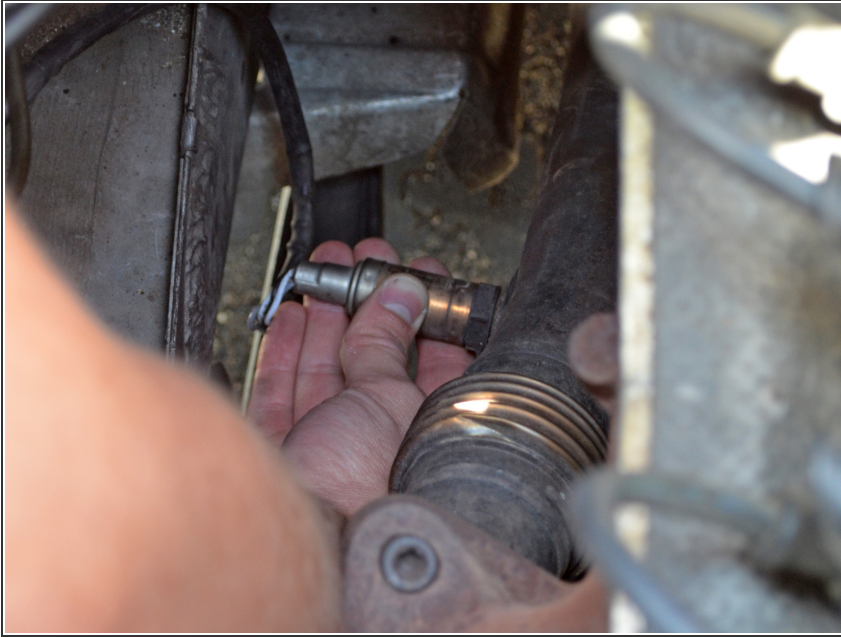
- Next, locate the oxygen sensor body. It'll be screwed into the downpipe about a foot past the exhaust manifolds.
- If your oxygen sensor has a heat shield on it, now is the time to remove it. Use a screwdriver to pry it off and set it aside.
- ⓘ Mine is long gone. I have no idea where it went.

Step 4



-  Before attempting this step, assess how rusty your oxygen sensor is and how long it has been since it was replaced. If it looks very rusty, or if you live in a rainy/salty climate, soak the sensor nearest the downpipe with a penetrant like PB Blaster every few hours for a whole day before you try to wrench it off. You definitely don't want to strip this thing.
- Thread the oxygen sensor wires through the slot in the oxygen sensor wrench.
 - With the socket seated as best you can on the hex head of the oxygen sensor, use all the strength you can muster to crack it free from its prison in the downpipe.
-  Luckily, mine broke free pretty easily. It'll happen pretty abruptly so be careful-my hand required a couple band-aids after smacking it against the manifold.

Step 5



- Grab the body of the sensor and unscrew it from the downpipe.
- ⓘ You'll need to use your other hand to feed the annoying length of wire attached to the sensor in the direction you're unscrewing it so the wire doesn't get all tangled.
- Once it is free from the threads, pull the sensor body out of the downpipe and remove it from the vehicle.

Step 6



- Next, locate your new sensor. You remembered to buy it, right?
- ⚠ Before reading the next bullet, read this one. The threads of this oxygen sensor come with anti-seize goop pre-applied. As you remove the protective cap, don't get any anti-seize on the tip of the oxygen sensor. Don't touch it either. It'll mess up the readings from the sensor if the anti-seize or other junk is vaporized in the hot exhaust gas stream.
- Carefully remove the protective plastic cap from the tip of the sensor.

Step 7



- If your sensor didn't come with any anti-seize on the threads, be sure to apply some to make replacing it in the distant future a bit easier.
- ⓘ The second picture shows the grimy old sensor. I'm not really sure when it was replaced last, but judging from the buildup on it I'd say replacing it sure won't hurt anything.
- ⓘ The little slits in the side of the sensor tip are where exhaust gases enter. For more information on oxygen sensor operational theory, check out the [oxygen sensor Wikipedia page](#).

Step 8



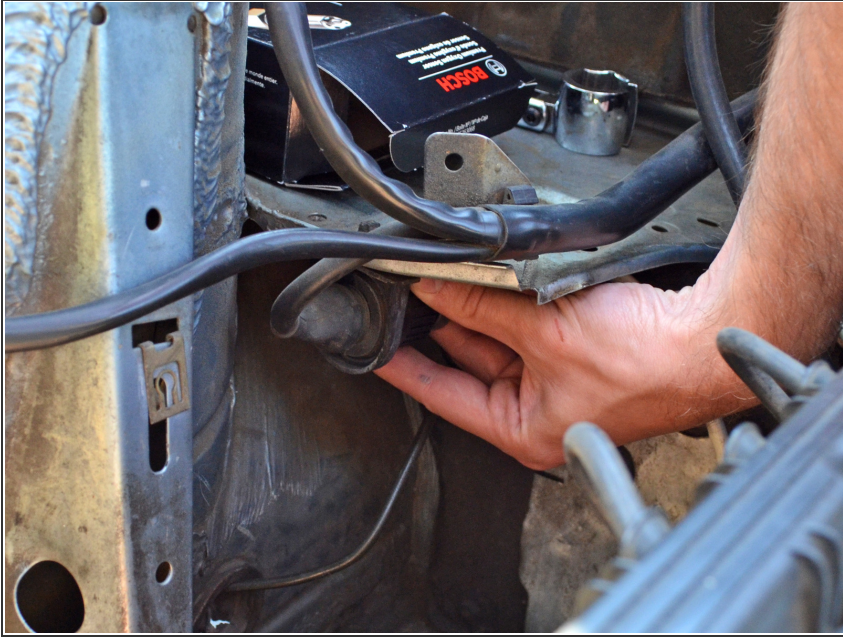
- Carefully insert the tip of the oxygen sensor into the downpipe and tighten it by hand.
- ⓘ Feed the wire attached to the sensor around in the direction that you rotate it to avoid it getting all twisted up.

Step 9



- Use the oxygen sensor wrench to torque down the oxygen sensor.

Step 10



- Insert the new oxygen sensor connector into its socket on the harness attached to the chassis.
- Twist the connector barrel clockwise (righty tighty) to lock the connection.

Step 11



- Since this particular oxygen sensor can be used on many vehicles, the cable is a bit too long for this particular vehicle.

⚠ If the cable has too much slack, it may contact the hot manifolds/exhaust pipes and the wire insulation can melt. All kinds of bad can result from that, so follow the next two bullets.

- Luckily, Bosch is awesome and includes two zip ties to keep the cable folded on itself to take up any slack.
- Fold the cable on itself and use zip ties to keep it folded. Trim the ends of the zip ties if you desire.

You did it! Enjoy your new found increase in gas mileage!

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